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EXAMINER

STOKELY-COLLINS, JASMINE N

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/626,047	Applicant(s) HODA ET AL.	
	Examiner JASMINE STOKELY-COLLINS	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 11, 22, 25, and 26 have been considered but are moot in view of the new ground(s) of rejection.

Regarding applicant's arguments for claims 1, 22, 25, and 26, newly added reference Yoneda et al (US 5,200,823) teaches the added limitation "a second judging unit configured to judge whether or not Virtual Channel Table ("VCT") information included in the digital broadcasting signal can be extracted, when it is judged in the first judging unit that the signal extracted by the tuner unit includes the digital broadcasting signal" in column 14 lines 60-64.

Regarding applicant's arguments for claim 11, Yoneda further teaches the added limitation "the program information obtaining unit is configured to newly obtain the VCT information which corresponds to the selected physical channel" by searching for a new virtual channel map (column 14 lines 62-66) and replacing any faulty units (column 15 lines 14-21) or all units.

2. Applicant's arguments with respect to claim 19 have been fully considered but they are not persuasive.

On page 15, applicant argues that Inui does not teach "a program information obtaining unit configured to obtain program information which identifies the program included in the signal that is extracted in the tuner unit." The examiner disagrees; Inui

teaches a program information obtaining unit (figure 1 element 6: TS analysis circuit) which is configured to obtain TS signals.

Applicant further argues, on page 16 paragraph 2, that the TS analysis circuit only generates and/or determines channel mapping information which includes frequency information, channel numbers, and virtual channel numbers. The examiner disagrees; The TS analysis circuit obtains transport stream signals. A transport stream, according to the ATSC standard, includes packet identification numbers which are individual to and identify a program. Therefore it is inherent that Inui's TS analysis circuit "obtains program information which identifies the program included in the signal that is extracted in the tuner unit."

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 19-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Inui et al (7,092,044 B2).

Regarding claim 19, Inui teaches a receiving apparatus for receiving broadcasting signal (figure 1) comprising:

a tuner unit (figure 1 element 2) configured to extract a signal of a desired frequency from a broadcasting signal which includes a plurality of frequencies and one or more programs at each of the plurality of frequencies (column 3 line 64-column 4 line 2);

a program information obtaining unit (figure 1 element 6: TS analysis circuit) configured to obtain program information which identifies the program included in the signal that is extracted in the tuner unit. A transport stream, according to the ATSC standard (which Inui builds his invention upon, as evidenced in column 1 lines 16-19), includes packet identification numbers which are individual to and identify a program. Therefore it is inherent that Inui's TS analysis circuit "obtains program information which identifies the program included in the signal that is extracted in the tuner unit" ; and

an output unit (figure 1 element 6) configured to output a signal representing channel information which can be selected for broadcasting (column 6 lines 5-8), wherein the channel information includes,

first information which represents that, without identifying the program included in the frequency extracted, the frequency is available (column 6 lines 14-23), and

second information which represents that, by identifying the program included in the frequency on the basis of the program information obtained in the program information obtaining unit, the frequency is available (column 1 line 66-column 2

line 12), and

wherein the first information and the second information are information corresponding to different frequencies of the broadcasting signal, respectively.

Regarding claim 20, when read in light of claim 19, Inui teaches the receiving apparatus as set forth in claim 19, wherein, the first information comprises information which represents that the physical channel is available, if the physical channel including a digital broadcasting signal can be extracted in the tuner unit and the program information of the physical channel cannot be obtained by the program information obtaining unit (column 6 lines 14-23, where the program information could not be obtained during the initial scanning when creating the channel map), and the second information comprises information which represents that one or more programs included in the physical channel are available, if the physical channel including a digital broadcasting signal can be extracted in the tuner unit and the program information (virtual channel number) of the physical channel can be obtained by the program information obtaining unit (during the initial scan column 3 lines 60-63).

Regarding claim 21, when read in light of claim 19, Inui teaches the receiving apparatus as set forth in claim 19, further comprising a memory unit configured to store the channel information (figure 1 element 7, column 4 lines

54-56), wherein when a physical channel selected from the memory unit (channel map stored in memory 7) includes information representing that, without identifying the program included in the physical channel, the physical channel is available (figure 4), the program information obtaining unit newly obtains the program information included in the physical channel, and the output unit outputs images of one or more programs included in the physical channel based on the program information obtained (column 5 line 65-column 6 line 23).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4-5, 8, 11-14, 18, 22, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view of Yoneda (US 5,200,823).

Regarding claim 1, Inui teaches a digital broadcasting receiving apparatus for receiving a broadcasting signal (abstract, figure 1), comprising:
a tuner unit configured to extract a signal of a desired physical channel from an input signal (figure 1 element 2: tuner),
a first judging unit configured to judge whether or not the signal extracted by the

tuner unit includes a digital broadcasting signal is evidenced by the channel map shown in figure 4 (which indicates whether a channel is digital, analog, or other) and column 3 lines 60-63 state that the channel map is obtained by a signal scan and;

a program information obtaining unit configured to extract VCT information included in the digital broadcasting signal from the signal extracted by the tuner unit and processed by the first judging unit, when it is judged in the first judging unit that the signal extracted by the tuner unit includes the digital broadcasting signal (figure 1 element 6: TS analysis circuit, column 4 lines 60-67); and a memory unit configured to store a judgment result in the first judging unit and information of the digital broadcasting signal obtained by the VCT information obtaining unit (figure 1 element 7, column 4 lines 54-66, figure 4).

Inui does not teach a second judging unit configured to judge whether or not Virtual Channel Table ("VCT") information included in the digital broadcasting signal can be extracted, when it is judged in the first judging unit that the signal extracted by the tuner unit includes the digital broadcasting signal.

Yoneda et al (US 5,200,823) teaches a second judging unit configured to judge whether or not Virtual Channel Table ("VCT") information included in the digital broadcasting signal can be extracted, when it is judged in the first judging unit that the signal extracted by the tuner unit includes the digital broadcasting signal (column 14 lines 60-64). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the receiving

apparatus taught by Inui by incorporating the virtual channel map error detection taught by Yoneda for the benefit of ensuring the validity of a and completeness of a channel map and allowing a user to tune to the maximum number of available channels.

The combination of Inui in view of Yoneda results in extracting VCT information when it is judged in “the second judging unit that the VCT information included in the digital broadcasting signal can be extracted.”

Regarding claim 4, when read in light of claim 1, Inui in view of Yoneda teaches the apparatus of claim 4. Inui further teaches the tuner unit is configured to extract signals of a plurality of physical channels which are classified into a first classification:

a physical channel being in the first classification if the signal of the physical channel is judged in the first judging unit to include a digital broadcasting signal and which is judged in the second judging unit that the program information included in the digital broadcasting signal can be extracted therefrom (column lines 21-37); and

Limitation “the tuner unit is configured to extract signals of a plurality of physical channels which are classified into a second classification:

a physical channel being in the second classification if the signal of the physical channel is judged in the first judging unit to include a digital broadcasting signal and which is judged in the second judging unit that the program information

included in the digital broadcasting signal cannot be extracted therefrom” is further met by Yoneda (column 15 lines 14-17, where faulty units of a virtual channel map are detected).

Limitation wherein all physical channels are stored in the memory unit is further met by Inui (figure 4 shows a channel map for storing all channels, whether a virtual channel is available or not).

Regarding claim 5, when read in light of claim 4, Inui further teaches the tuner unit is configured to extract signals of a plurality of physical channels which are classified into a third classification, wherein a physical channel is in the third classification if the signal of the physical channel is judged in the first judging unit not to include a digital broadcasting signal; and wherein the third classification of physical channel is stored in the memory unit (figure 4, see analog channel 13).

Regarding claim 8, when read in light of claim 2, Yoneda further teaches “an error correction unit configured to carry out an error correction of the input signal, and wherein the second judging unit judges whether or not the program information included in the digital broadcasting signal can be extracted based on a bit error rate which is detected in the error correction unit” by checking for errors in a channel map by using an error detecting mechanism (checksum), and

replacing either the faulty entries or the entire channel map (column 14 lines 60-66, column 15 lines 14-21).

Regarding claim 11, when read in light of claim 1, Yoneda further teaches when a physical channel selected from the memory unit has a signal which was judged in the first judging unit to include the digital broadcasting signal and which was judged in the second judging unit to contain VCT information that could not be extracted, the program information obtaining unit is configured to newly obtain the VCT information which corresponds to the selected physical channel (column 14 line 60-column 15 line 13, where channels are repeatedly cycled through to obtain all valid channel maps).

Regarding claim 12, when read in light of claim 11, Inui further teaches when the program information which is included in the digital broadcasting signal is newly detected, the program information obtained is stored in the memory unit (column 4 lines 21-24).

Regarding claim 13, when read in light of claim 2, Inui further teaches a display device (figure 1 element 12) for displaying image information which is included in the signal of the physical channel that is extracted in the tuner unit, and information representing results judged in the first judging unit and the second judging unit.

Regarding claim 14, when read in light of claim 1, Inui further discloses the program information obtaining unit is disposed downstream of the first judging in a signal processing path for the signal extracted by the tuner unit to extract the program information from the signal which has been processed by the first judging unit in the same signal processing path (figure 1). Inui's invention digital broadcast receiver stores its judgment in memory (element 7 of figure 1), which is upstream from the program information obtaining unit (figure 1 element 6: TS analysis circuit). Therefore, the judging unit responsible for making that judgment is upstream from the information obtaining unit.

Regarding claim 18, when read in light of claim 1, Inui further discloses the VCT information which is included in the digital broadcasting signal includes any information of virtual channel number (figure 4), modulation system, channel TS-ID, and program number.

Regarding claim 22, Inui teaches a digital broadcasting receiving method in which channel information of a digital broadcasting is scanned by channel scan and stored (column 1 lines 45-63), comprising:
selecting a physical channel from a signal received (column 1 line 64-column 2 line 2);
judging whether or not the selected physical channel includes a digital

broadcasting signal (figure 4); and
storing in a memory unit that the physical channel includes the digital
broadcasting signal, when it is judged that the selected physical channel includes
the digital broadcasting signal (figure 4)

Inui does not teach deciphering whether the program information included
in the digital broadcasting signal can be obtained

Yoneda teaches judging whether or not VCT information included in the
digital broadcasting signal can be obtained (column 14 lines 60-64);

Inui in view of Yoneda results in the above limitation occurring “in case
that it is judged that the digital broadcasting signal is included.”

Regarding claim 27, when read in light of claim 1, Inui further teaches the
memory unit stores the judgment result regardless of the result of the second
judging unit (see figure 4, where all channels are stored).

1. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inui
et al (7,092,044 B2) in view of Yoneda (US 5,200,823), and further in view of Kim (GB
2348330).

Regarding claim 6, when read in light of claim 4, Inui in view of Yoneda
teaches the digital broadcasting receiving apparatus of claim 4.

Inui in view of Yoneda does not teach an output unit configured to output such a display signal that a channel which is stored in the memory unit and belongs to the first classification and a channel which is stored in the memory unit and belongs to the second classification are separately displayed on a display screen as channels which can be selected, respectively.

Kim teaches an output unit configured to output such a display signal that a channel which is stored in the memory unit and belongs to the first classification and a channel which is stored in the memory unit and belongs to the second classification are separately displayed on a display screen as channels which can be selected, respectively (figure 5b, page 5 line 22- page 6 line1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to display the different categories of channels taught by Inui in view of Yoneda for the benefit of indicating to the user which channels will display program information clearly and which channels will not.

Regarding claim 7, when read in light of claim 6, Inui further discloses the output unit comprises a television (page 3 lines 4-10).

2. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view of Yoneda (US 5,200,823), and further in view of Caporizzo (US 5,574,495).

Regarding claim 9, Inui in view of Yoneda teaches the digital broadcast receiving apparatus of claim 8 wherein the second judging unit judges whether or not the VCT information included in the digital broadcasting signal can be extracted based on a result of error detection in the error correction unit.

Inui in view of Yoneda does not disclose detecting the error rate a plurality of times.

Caporizzo teaches detecting and calculating the bit error rate a plurality of times (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Caporizzo's method of detecting error a plurality of times with the error-detecting receiving apparatus taught by Inui in view of Yoneda for the benefit of obtaining a more accurate error rate.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view of Yoneda (US 5,200,823), and further in view of Taura et al (US 6,067,332).

Regarding claim 10, Inui in view of Yoneda teaches the digital broadcast receiving apparatus of claim 1, further comprising an error correction unit configured to carry out an error correction of the input signal, and wherein the second judging unit judges whether or not the VCT information included in the digital broadcasting signal can be extracted based on data outputted from the error correction unit (see analysis of claim 8).

Inui in view of Yoneda does not teach judging whether or not the VCT information included in the digital broadcasting signal can be extracted based on synchronization establishment of digital data.

Taura teaches judging whether or not a signal is receivable based on synchronization establishment of digital data (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the use of synchronization establishment to incorporate Taura's teaching of determining if a digital broadcasting signal is extractable in the digital broadcast receiving apparatus taught by Inui in view of Yoneda for the benefit of testing all the appropriate criteria needed to successfully reproduce digital broadcast data.

4. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view of Yoneda (US 5,200,823), and further in view of Shintani et al (US 6,137,546).

Regarding claim 15, when read in light of claim1, Inui in view of Yoneda teaches the digital broadcast receiving apparatus of claim 1.

Inui does not teach a demodulating unit configured to demodulate the signal extracted by the tuner unit from the input signal, and wherein the first judging unit judges that the input signal includes the digital broadcasting signal

when a predetermined synchronization signal is detected in the signal being demodulated in the demodulating unit

Shintani teaches a demodulating unit (figure 3 element 16) configured to demodulate the signal extracted by the tuner unit from the input signal, and wherein the first judging unit judges that the input signal includes the digital broadcasting signal when a predetermined synchronization signal is detected in the signal being demodulated in the demodulating unit (column 5 lines 7-16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the digital signal judgment of Shintani into the digital broadcast receiving apparatus of Inui for the benefit of establishing a valid NTSC signal, as taught by Shintani (column 5 lines 11-12).

Regarding claim 16, see analysis of claim 15.

5. Claims 17, are rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view Yoneda (US 5,200,823), and further in view of Shigihara et al (US 5,966,186).

Regarding claim 17, when read in light of claim 1, Inui in view of Yoneda teaches the receiving apparatus of claim 1.

Inui in view of Yoneda does not teach an amplifying unit configured to amplify the signal which is inputted, and wherein the first judging unit judges

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whether or not the digital broadcasting signal is included based on an AGC voltage in the amplifying unit

Shigihara teaches an amplifying unit configured to amplify the signal which is inputted (figure 2 element 71), and wherein the first judging unit judges whether or not the digital broadcasting signal is included based on an AGC voltage in the amplifying unit (column 5 lines 8-12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Shigihara into the apparatus taught by Inui in view of Yoneda for the benefit of monitoring signal quality.

Regarding claim 24, when read in light of claim 22, Inui further teaches when a physical channel selected from the memory unit includes a signal which was judged to include the digital broadcasting signal but the digital broadcasting signal was judged to contain program information which could not be extracted: newly obtaining the program information of the physical channel, storing in the memory unit the newly obtained VCT information of the channel (column 5 lines 25-33); and outputting a program included in the physical channel, based on the newly obtained program information of the physical channel (figure 6).

Regarding claim 25, see analysis of claim 1.

6. Claims 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view of Yoneda (US 5,200,823), and further in view of Piotrowski et al (US 2002/0140871 A1).

Regarding claim 23, Inui in view of Yoneda teaches the digital broadcasting receiving method of claim 22. Furthermore, Inui in view of Yoneda teaches storing that the physical channel includes the digital broadcasting signal, when it is judged that the selected physical channel includes the digital broadcasting signal but the program information included in the digital broadcasting signal cannot be obtained; and storing channel information of the physical channel, when it is judged that the selected physical channel includes the digital broadcasting signal and the VCT information included in the digital broadcasting signal can be obtained (see analysis of claim 4).

Inui in view of Yoneda does not teach displaying that the physical channel includes the digital broadcasting signal, when it is judged that the selected physical channel includes the digital broadcasting signal but the VCT information included in the digital broadcasting signal cannot be obtained; and displaying channel information of the physical channel, when it is judged that the selected physical channel includes the digital broadcasting signal and the program information included in the digital broadcasting signal can be obtained.

Piotrowski teaches displaying that the physical channel includes the digital broadcasting signal, when it is judged that the selected physical channel includes the digital broadcasting signal but the program information included in the digital broadcasting signal cannot be obtained; and displaying channel information of the physical channel, when it is judged that the selected physical channel includes the digital broadcasting signal and the program information included in the digital broadcasting signal can be obtained. Piotrowski discloses displaying the entire channel map in page 2, section 0020. It would have been obvious to combine the channel information display capabilities of Piotrowski with the channel map taught by the digital broadcast receiving method of Inui in view of Yoneda for the benefit of having an easy channel selection method.

Claim 26 is analyzed with respect to method claims 22 and 23 in which Inui further discloses a digital broadcasting receiving method in which channel information of a digital broadcasting is scanned by channel scan (column 1 lines 45-63), comprising:
scanning a signal to preset one or more physical channels (column 3 lines 60-63).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASMINE STOKELY-COLLINS whose telephone number is (571) 270-3459. The examiner can normally be reached on M-Th 9:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Koenig can be reached on (571) 272-7296. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Jasmine Stokely-Collins/
Examiner, Art Unit 2623

/Andrew Y Koenig/
Supervisory Patent Examiner, Art Unit 2623